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ART. XVI.—*Notes on the Cultivation of Cotton in the District of Dharwar; Past, Present, and Future.* By J. C. MARSHMAN, Esq.

[Read 22nd March, 1862.]

THE district of Dharwar, which is likely to become the field of important operations in reference to the supply of superior cotton to England, lies within the presidency of Bombay, and is comprised in the Southern Mahratta country; the chief town of the district, which bears the same name, is 288 miles south-east of Bombay.

Previously to 1836 the collectorate of Dharwar consisted of eighteen talooks, and stretched nearly 300 miles from north to south. In that year ten of the northern talooks were formed into the new district of Belgaum.

The present zillah of Dharwar is therefore limited to 105 miles from north to south, and 77 miles from east to west, the area being 3,837 square miles, a great portion of which consists of extensive plains admirably adapted for the cultivation of cotton. In 1861-62 the number of acres planted with cotton in Dharwar was 379,000, and in Belgaum, including both the British territories and the political agency, 285,000.

The earliest commercial operations of the East India Company in India were connected with the district of Dharwar. At the distance of 12 miles from the town of Dharwar lies the great mart of Hooblee, in which the Company had established a large factory before the acquisition of Bombay from the Portuguese. It was subordinate to the neighbouring port and factory of Carwar, and to the presidency of Surat. Orme states that in 1673 Sevagee "sent an army to the country on the eastern side of the mountains at the back of Carwar and Goa, which abounded in manufacturing villages, under many towns of mart which traded with the capital and the sea. Sevagee's troops destroyed everything they did not carry away. Their booty was great, but in no place so valuable as in Hooblee, where they found a great store of cloth for exportation, and all kinds of imported commodities, of which Hooblee was

the deposit." Sevagee had previously plundered the English factory at Rajapoor; and the English chief at Bombay, Sir George Oxenden, proceeded to demand compensation for both these outrages. He found him engaged in the magnificent ceremony of his enthronement, in which he gave away his weight in gold and 100,000 pagodas to the Brahmans. He promised a speedy adjustment of the Rajapoor claim, but said that "he knew nothing of the Hooblee affair beyond the list produced by his officers, which consisted of a parcel of furniture and trumpery valued at 200 pagodas;" whereas the English factors estimated their loss at 8,000 pagodas. The historian states that he gave 10,000 pagodas as damages for Rajapoor, but would give nothing for Hooblee. It is therefore in the district which more than two hundred years ago supplied England with its manufactured cloths that efforts are now made for facilitating the export of the raw material; and the line of communication with the sea which we are improving in 1862 is the same which was used by our factors in 1662.

The first series of experiments made for the improvement of the cotton in Dharwar was undertaken by the East India Company in 1829. The object then proposed was "to introduce the culture of exotic cotton, and to improve the mode of cultivating and cleaning the indigenous species." An experimental farm was established by Dr. Lush at Seegeehullah, and powerful presses for packing and pressing were set up at Dharwar and two other places.

These experiments were continued from 1830 to 1836. On the 7th January, 1836, Sir Robert Grant, the Governor of Bombay, stated in his abolition minute that "Dr. Lush seemed to him to prove very satisfactorily that the cotton farms would not succeed in the Southern Mahratta country, and that the Revenue Commissioner made it equally clear that they would succeed no where else. It follows that the cotton farms should be broken up. The experiment has been tried sufficiently, and failed."

The Court of Directors were not, however, discouraged by the failure of the first experiment. In 1842, Mr. Shaw, the Collector of Dharwar, reported the result of a trial which he had made with foreign seed in ten acres in the Hooblee talook. The produce of the seed was found to be greatly superior to that of the native cotton cultivated by the ryots. Many of them expressed a strong desire to be supplied with seed, and both they and the merchants seemed to think that—but for the difficulty of cleaning the American cotton, the fibre of which adhered closely to the seed, and which could only be overcome by the introduction of machinery—its

culture would become general in the district. The Court of Directors on being informed of these circumstances determined to lose no time in renewing the experiment of cultivating exotic cotton in the district, and entered upon it with great spirit. Mr. Mercer, an American planter, was deputed to Dharwar, in April, 1843, to commence operations, and Mr. Channing was soon after associated with him. In July, 1844, Mr. Mercer reported, as the result of his first year's experiment, that the smallest average of the New Orleans cotton planted by the ryots was 49 lbs. of clean cotton; while the largest amount ever obtained from the indigenous cotton was 30 lbs. At the end of 1845 Mr. Shaw reported that the ryots in Dharwar and Hooblee who had taken to the cultivation of New Orleans cotton were perfectly satisfied with the enterprise, and that there were between 2,000 and 3,000 acres of land then under culture with foreign seed.

The Government farms were established in 1843-44, and a small portion of land was brought under cultivation by the natives. In 1844-45 the farms still existed; the New Orleans seed was extensively sown by the natives, and the crop was purchased by Government. In 1845-46 the public farms were discontinued, and the interference of Government was limited to the purchase of the crop raised by the natives. In 1846-47 the system of purchasing the produce of the exotic seed was continued, but the cultivation of it by the natives had been carried on to an increased extent. In this latter year, Mr. Shaw, to whom the merit of having commenced and urged forward these renewed experiments belongs, reported that the real merits of the New Orleans cotton had surmounted the prejudices of the natives, that the saw gin appeared now to be fully appreciated, and that the demand for gins was greater than could be supplied.

The Government having brought the experiment up to this point of maturity and made arrangements for the introduction of an adequate supply of saw gins, thought the time had arrived when they might retire from any farther interference in the cultivation or purchase of cotton, and leave it entirely to private enterprise. Since that period, the extension of the cultivation of the New Orleans seed by the natives in the district of Dharwar, which supplies 50 per cent. of all the cotton raised in the Southern Mahratta country, has been progressively increasing, from the mere impulse of private gain. It has extended into the neighbouring province of Bellary and the adjoining territories of the Nizam without any official encouragement, and the quantity of

land in Dharwar sown with New Orleans seed, which fifteen years ago did not exceed 3,000 acres, is stated to exceed 178,000 acres in the last year.

A letter from Mr. Heywood, who has been deputed by the Manchester Cotton Company to the cotton districts in India, dated Gudduck the 30th November last, contains the latest and most interesting report on the cultivation of cotton in the Southern Mahratta country. He states that the town of Dharwar is not in the great line of traffic, and that Hooblee, which now contains a population of 50,000, is rather a manufacturing than an agricultural town, having 1,200 looms in which only the native cotton is used, and is on the outskirts of the cotton districts on the road to Coompta. In the course of his progress through the cotton districts he noticed various instances in which the ryots have, of their own accord, substituted New Orleans cotton seed for the indigenous species. Beyond Bankapore to the north and the east, he states that there is an immense track of the fertile black soil chiefly cultivated with the American cotton. At Hoovin 600 acres are planted with New Orleans, and 500 with native seed. Out of 75 villages in one talook, 40 are now grown with American seed, and this in the neighbouring district of the Madras Presidency. The people affirm that it is the American cotton which has made them rich; and it is owing to the increasing demand for this superior class of cotton that the trade of the district has been so greatly increased.

Throughout the whole of the Dharwar district the American cotton has been largely cultivated, and it fetches a higher price than any other cotton in the market. According to Mr. Heywood's report, the people in the neighbouring district of Bellary, and in the Nizam's territories have for some years grown cotton from American seed and value it more highly than the native species. There appears, moreover, to be greater care taken by the farmers in keeping their American cotton free from any admixture with the native plant, the native cotton requiring to be ginned by the foot-roller which will not clean the New Orleans cotton.

The American cotton can only be separated from the seed by means of saw gins. When it was discovered that the cultivation of New Orleans cotton was likely to succeed in Dharwar, a factory was established in that town for the manufacture and distribution of suitable machinery for cleaning it. From this establishment 825 gins have been issued, with an aggregate of 10,685 saws. They have been purchased by the ryots and dealers in the district, and

some of them have found their way to Bellary in the Madras Presidency, as well as into the Nizam's dominions, a hundred miles distant. The rate they fetch is £13 for a ten saw gin, and £16 for one of eighteen saws.

The factory has likewise been used as a training school for native youths, who are regularly indentured for a definite period, and carefully instructed in all the branches of machine making, including carpenter's and smith's work, turning and casting metals. As the cultivation extended, it was found inconvenient and expensive to send the gins all the way to Dharwar for repair sometimes to the distance of 90 miles. Four years since Dr. Forbes made a tour through the district to examine the state of the gins at work. To obviate the serious difficulty which had arisen, he proposed to establish branch factories in different localities, where the gins might be within reach of the workmen. At the same time he established itinerant parties of workmen provided with the necessary tools for ordinary repairs, who were required, during the working season, to visit at stated periods every gin within their circuit, to make the requisite repairs, and to report on their condition. Two such factories were opened at Kurrajgee and Gudduck, provided with turning lathes, machinery, and tools and implements for repairs.

These buildings are the property of the ryots by whose subscriptions they have been created, and at whose expense they are maintained. For a small annual payment the owner of the gin enjoys the advantage of having it kept in working order throughout the year, and regularly inspected. The subscription varies from 10 to 15 rupees a year, and is collected by the district officers, and paid by them to the punchayet, or committee of management, elected by the votes of the subscribers. The accounts of this committee are audited every month, and a half-yearly report is made on the subject to the contributors.

An itinerant party of workmen on arriving at a village report themselves to the patel, or municipal officer on the part of government, whose duty it is to see that every gin is attended to in his village. On the completion of the duty the workman receives a duplicate certificate from the patel, which states the material used, and the work which has been done. The circuits marked for these itinerating parties are of such limited extent as to admit of their visiting every village in it once in fifteen days. The system has been in operation about two years, and the cost of each factory is about 4,000 rupees a year.

The cotton of Dharwar and the surrounding districts, which is intended for export, is conveyed down to the Coast on the backs of bullocks, or in crazy carts, over roads of the most primitive description. The cotton is liable to constant deterioration from accidents, and to diminution from pilfering. All the cotton which proceeds to the coast from the Bellary district requires to be conveyed across the Toongbudra, which is 400 or 500 yards across, and it is ferried over in a coracle constructed of wicker work and covered with skins, three feet in depth and about fourteen in diameter. The detention of hundreds of carts which crowd to this ferry is most inconvenient to the merchant; and as all the cotton, which is in loose bales, is unloaded to be placed in the coracle, and then re-loaded on the opposite bank, it is subjected to great injury; and the first want of the country, therefore, is suitable roads for the conveyance of the cotton to the port of shipment. The Government engineer officers have been engaged for some time in constructing one from Dharwar to Sudasegur, which is promised in March next, and may possibly be finished in May.

As to the question of conveying the cotton of Dharwar and Belgaum by the railway of the Great India Peninsular Company, it may be sufficient to remark, that the rail, which is designed to run from Poonah to the Madras junction at Bellary, does not come within 100 miles of Dharwar, the nearest point being Moodgul. But the line has not as yet reached Moodgul, having been arrested at Sholapore. It cannot therefore be expected that the rail will be completed down to Moodgul for the next three years. Even when that is the case, there will still be 100 miles of common road over which the cotton must be conveyed to that station, after which there would be the cost of more than 400 miles of railway conveyance to the port of Bombay. It is therefore manifestly more for the cotton interests of the district, to construct a road of 80 miles from Dharwar to the coast, where the cotton will probably be at once shipped for Europe.

At present, all the cotton exported by sea goes down to Coompta, 40 miles south of Sudasegur. Coompta is rather an open roadstead than a harbour. The great disadvantage connected with the shipment of cotton at this place is, the necessity of conveying it to Bombay, where it is re-shipped for England.

To secure a healthy and prosperous cotton traffic in the Southern Mahratta country, it is necessary that the bales should, if possible, be screwed for the English market in the district itself, and placed at once on the vessel which is to convey it to its European destination.

To secure this object, the only course available is to resort to the port of Sudasegur, which was used by the East India Company two hundred years ago, when it was called Carwar, which is described by Dr. Buchanan, in his work on Mysore, as three miles above Sudasegur on the opposite bank of the river, but which was completely ruined by Hyder Ali and Tippoo.

During the south-west monsoon this port is difficult of approach, and the anchorage is not altogether safe; but on this point we have the latest and best information from Captain Fraser, of H.M.S. *Franklin*, who has been employed in surveying it for many months during the last season. In transmitting his report to the Governor of Bombay, the naval Commander-in-chief said, that "from the 26th June to the 15th of July, high rollers were breaking in all parts of the bay except Carwar head; and in a line between the head and the mouth of the river, the rollers culminated to such a height, and swept onward in such rapid succession, that Commander Fraser is of opinion, that large vessels could not have ventured to run through them without the risk of great injury, and small vessels would have endangered their safety in the attempt. There was not a single day during this interval in which the *Franklin*, from this cause, could have worked out of the bay.

"With this exception, the weather during the monsoon was generally moderate, and the water in the bay smooth, with occasionally a high swell; and the conclusion therefore, I think, to be drawn from his report is, that except during the first furious bursts of the monsoon, the port of Sudasegur is perfectly safe at all times of the year."

The future prospects of the cotton traffic in this division of India appeared to be very encouraging. It is not one of the least important elements of success, that the respective duties of those through whose joint agency we are to obtain the cotton, are at length as clearly understood in this country as they have hitherto been in India. While England continued simply to demand cotton of the public authorities of India, and to censure them for not supplying it, nothing was effected towards the accomplishment of the object. But the fact is at length practically acknowledged, that the importation of cotton from India in any degree commensurate with the exigencies of the time, requires the spirit of private enterprise in addition to the assistance of Government. It is now universally admitted that the duty of Government is limited to the construction of roads, bridges, and harbours, and cannot be advantageously extended beyond this circle; and that it is the resources of the



mercantile and manufacturing community which must be employed in stimulating the growth and improving the quality of the cotton. England has at length put her own shoulder to the wheel, and the prospects of the traffic have at once brightened.

A company has been formed in Manchester to promote the cultivation of cotton in India, and to secure its transmission to England in an unadulterated state. An able and energetic agent has been sent to India to make local enquiries, and to plant local agencies. He has already made arrangements for the establishment of two factories in the heart of the country, and on the great lines of traffic. He has, moreover, rendered us important service by ascertaining what are the impediments to success, and what are the means by which they may be removed.

From his reports and from other sources, we have the information confirmed, that the rich black soil of the region designated the Southern Mahratta country, can yield cotton of a quality almost, if not quite, equal to that of America; and that this soil is found to an indefinite extent. "There is ample black soil," says Mr. Heywood, "in India adapted to the growth of all that England or the Continent can consume."

We learn, moreover, that the yield per acre has increased from 60 lbs., as stated by Mr. Mercer in 1845, to 110 lbs. in 1861, and with the most inefficient ploughing. "When the ryot," remarks Mr. Heywood, "is rich enough and spirited enough to use better implements of husbandry, and to cultivate more carefully, he will obtain two or three times the produce."

We learn that the efforts made by government to promote the cultivation of a superior species of cotton in Dharwar have been crowned with success; that the natives, finding the return from the New Orleans cotton more remunerative than that from the indigenous seed, are everywhere substituting the one for the other, and that they consider the American seed to have introduced the age of gold among them.

We have also the gratifying assurance, that for the fulfilment of our hopes regarding cotton in the Southern Mahratta country, we have not to wait for a complete revision of the system of landed tenure, or even for a penal enactment in the matter of contracts, however important they may be considered elsewhere. Mr. Heywood (writing from the country) says, "Wherever this rich black soil exists, the New Orleans cotton will flourish. The people only want gins and *honest traders*. A fair price given to the growers direct, instead of leaving them in the hands of the numerous

agencies between the district and Bombay, who now consume the profits, would rapidly enrich the people, and give us all we want." What is required then of English capitalists is, that they should send honest and experienced agents into what Mr. Heywood aptly terms "the centres of population," to purchase the cotton at first hand, and to establish factories for pressing and baling it; and that they should stimulate the public authorities to the performance of that share of the labour which devolves on them, by improving the means of conveyance.

Since these notes were compiled, the following additional information has been received on the subject. The district of North Canara, in which the harbour of Sudasegur is situated, has been peremptorily transferred by the Home Authorities from the Presidency of Madras to that of Bombay, to which it geographically belongs. The port of Sudasegur is to be immediately connected with the cotton districts by two roads. In a comparison instituted by Dr. Forbes between the two harbours of Compta and Sudasegur, he remarks: "The cotton exported from these districts is at present taken to the port of Compta, whence it is conveyed in open native boats to Bombay harbour, for final shipment to England. At Compta there is what may be termed an inland creek, in which these native boats might find shelter in bad weather, were it not that a formidable bar prevents them obtaining access to it. They are consequently compelled to remain outside at anchor in an open roadstead, exposed to the dangers of a lee shore, should a storm set in; and during the period of the south-west monsoon (which may be from any time in May to September), they very rarely venture to approach the place. Owing, also, to the imperfect state of the communications with the interior, but a very small proportion of the cotton of each season finds its way to Compta (even from the nearest districts) in time for this boat-transport to Bombay, the remainder being detained at the places of growth, imperfectly stored, and so ill protected from the wet and damp of the monsoon, that its consequent depreciation in quality from this cause alone is computed at no less than one farthing per pound. To add to this evil also, so ill suited is Compta for the export of produce, owing to local difficulties—such as unbridged creeks, water-courses, &c., in the immediate neighbourhood of the harbour—that cotton, after arriving at that place, has to undergo no less than five changes of transport before it is deposited on board the native boats in the roadstead; and the result is, that the actual cost of its

transport, even thus far on its way to England (about 70s.), nearly equals that of its cultivation and production."

In addition to the expense of transporting it from the interior to Compta, the expense attending the conveyance of it from Compta to Bombay, till it is deposited on board the vessel which takes it to England, is about 1*l.* 5*s.* the ton of 14 cwt., which is the weight of cotton stowed by measurement, thus bringing up the charge, including the homeward freight, to 7*l.* 5*s.* The distance of Dharwar from Sudasegur is 75 miles as the crow flies, and that of the three other great cotton marts of Seegaum, Kurudgee, and Bankapore, 85 miles. The new roads to these places will be uninterrupted throughout, and if kept in proper order, and the cotton half-pressed, a common country cart will carry down 10 cwt. with ease. Including 1*s.* for half-pressing, the expense will be 26*s.* per ton. If to this be added the homeward freight 50*s.*, and 2*s.* for final pressing, the result will be, that "the produce would be conveyed from the cotton fields to Liverpool at a cost of 3*l.* 18*s.* per ton, instead of being subjected to an expense of 7*l.* 5*s.*, as is the case at present by the Bombay route; or, in other words, that the Lancashire spinners might have it delivered at their own doors at actually less cost of carriage than the Bombay mills have to pay for it at present, which is somewhere about 4*l.* 10*s.* per ton."

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